

Senior Living Research

Universal Kitchen Design

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Universal Design

- Universal Design is a design concept that aims to accommodate individuals occupying a space regardless of age or ability.
- It opens up the opportunity to mesh ADA guidelines with designer's vision.
- Cohesiveness and camouflage is greatly encouraged to better the experience for individuals with special needs due to age or handicap.
 - This is needed to make the all parties in a space feel comfortable without singling out any individual.

Inclusive Design

- Inclusive design was originally intended for product design and a specific target audience.
- It is similar to universal design.
- Focuses on improving the experience for a broad range of customers by:
 - including as many people as possible and their diversities.
 - covering every need, service, capability, and/or yearning, and to disregard any impediment for people with disabilities.

Our Ideas

While kitchen design has come a long way in terms of inclusive design, we feel there are a few areas that still need to be addressed in order to be truly universal. Obstacles such as countertop height and sinks that are not accessible for individuals in a wheelchair have been addressed but there is more that we can do. There are two main areas that we feel can be approached a different way to make time in the kitchen easy and comfortable for anyone.

- Voice activated shelving system to eliminate the need for upper cabinet storage and to make finding things easier.
- Sliding appliance and cabinet doors to create more space and eliminate obstacles for individuals in a wheelchair.

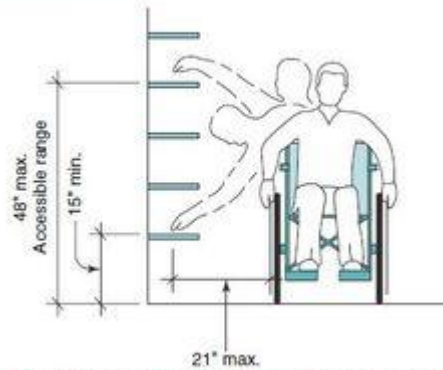


Voice Activated Shelving System

- Using a voice-activated, rotating pantry system to eliminate the need for upper cabinets and to meet specific needs of each resident.
- Upon move in, a staff member will help resident program their kitchen to adjust for their height, limitations, and any other needs that make using a traditional kitchen difficult.
- Once the resident states their name to the shelving system to engage their specifications, they can then speak commands and the shelves will do the rest.
- For example, if they want pasta, they simply speak “pasta” and the shelves will rotate the shelf with this item to the pre-programmed height. This is especially helpful for residents in wheelchairs or residents that have trouble bending down or reaching above their heads.
- On top of the rotating shelves, there could also be extra technology installed that assists visually impaired residents find what they are looking for once the shelf is at the height that they have pre-determined.
- This shelving system could be used for everything that requires cabinet space such as dry storage food, dishes and glassware, cooking appliances and pots and pans.

ADA Kitchen Requirements

FIGURE 6-14 Accessible Storage Space.



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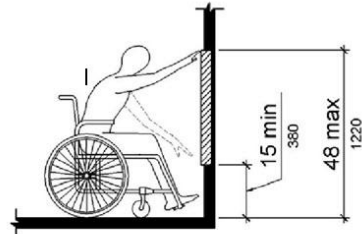
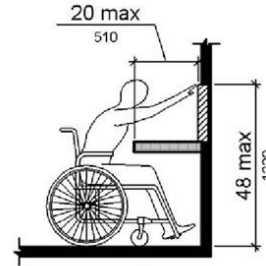
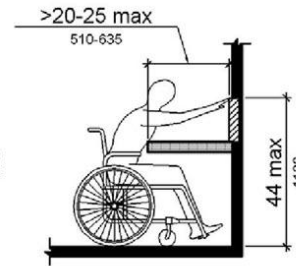


Figure 308.2.1
Unobstructed Forward Reach



(a)



(b)

Figure 308.2.2
Obstructed High Forward Reach

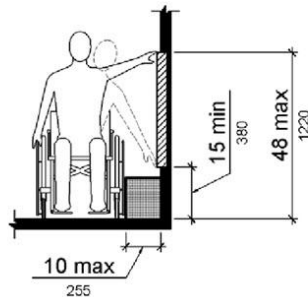
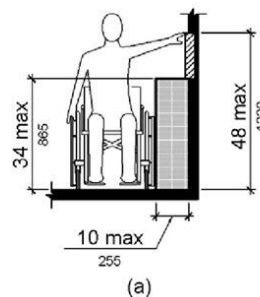
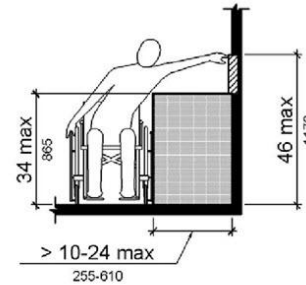


Figure 308.3.1
Unobstructed Side Reach



(a)



(b)

Figure 308.3.2
Obstructed High Side Reach

Sliding Appliance and Cabinet Doors

- One area that we feel has not been addressed when it comes to creating a kitchen that can truly be called a universal design is the obstacle that appliance and cabinet doors create for individuals in a wheelchair. For example, if the dishwasher or oven doors are open, there is no room for someone in a wheelchair to get around.
- To address this issue, we would like to switch all cabinets to more of a drawer situation where the entire storage space slides out and is accessible from above. This will not only make things easier for individuals in a wheelchair, but also for people with bending limitations.
- We would also like to switch the dishwasher in every unit to a similar situation.



Wheelchair Friendly Kitchen Options



ADA Kitchen research

- ADA is defined as any person with a physical or mental impairment that greatly limits major life activities. An estimated 30 million people in America use a walker or wheelchair. By incorporating universal design with ADA will give people the opportunity to age in place and both the abled and disabled can use/work in a given space.
- Not only is accommodating needs important but it is also important to blend the space together so that people with specific needs are not isolated.
- Considerations that are already being enacted:
 - Varying counter heights
 - Lower wall cabinets and shorter base cabinets
 - Wider clearances

ADA Kitchen Research



ADA Kitchen Research



WHAT TECHNOLOGIES CAN WE IMPLIEMENT TO HELP INDIVIDUALS WITH DISABILITES IN THE FUTURE?

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Victoria Miller
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DOORS WILL ONLY OPEN AND CLOSE WITH A *PRESS TO OPERATE* BUTTON.

AUTOMATIC TIMERS WILL BE PLACED ON THE REFRIGERATORS, SINKS, STOVES, AND BATH TUBS.

THE BATH TUBS AND SHOWERS WILL HAVE BUTTONS OR A MOUNTED IPAD TO ADJUST THE TEMPERATURE OF THE WATER.

THE LIGHTS WILL REMAIN DIMMED AND SOFT AS WELL AS MOTION SENSORED, ALONG WITH ALARMS AND CAMERAS.

IPADS WILL ALSO BE USED TO TURN ON CEILING FANS AND TO CLOSE OR OPEN THE BLINDS. IPADS, COUPLED WITH A VOICE ACTIVATION SYSTEM, WILL BE USED TO TURN ON THE TELEVISION.



THE EYE STICK, WHICH IS A WALKING STICK THAT SEES WILL BE PROVIDED. THE EYE STICK RELEASES SONIC VIBRATIONS TO PROVIDE ONE OF THE MOST ACCURATE WAYS FOR THE VISUALLY IMPAIRED TO GET THEIR BEARINGS IN AN ENVIRONMENT.

THE EYE STICK WILL HAVE A SENSOR EQUIPPED AT THE END OF THE STICK THAT CAN INSTILL CONFIDENCE EVEN WHEN DEALING WITH STAIRS AND OTHER POTENTIALLY DANGEROUS SCENARIOS.

THE DOORS WILL HAVE AN AUGUST LOCK. AUGUST LOCKS WILL GIVE SOMEONE THE ABILITY TO UNLOCK THE DOOR WITH THEIR PHONE.

THE AUGUST SMART LOCK WILL BE AVAILABLE TO CREATE UNIQUE, CUSTOM ENTRY CODES FOR GUESTS WITH THE AUGUST SMART KEYPAD. THE AUGUST CONNECT WILL GIVE YOU REMOTE CONTROL OF YOUR AUGUST SMART LOCK.

THE AUGUST DOORBELL CAM WILL BE AVAILABLE TO LET THE RESIDENTS SEE AND SPEAK TO VISITORS AT THE FRONT DOOR AND IT ELIMINATES THE NEED FOR AUGUST CONNECT.

Universal Design

UNIVERSAL DESIGN

ASSIGNMENT 1 – IDSN 3600 – FALL 2016
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UNIVERSAL DESIGN

Universal design refers to products, buildings and equipment that are usable by a diverse range of individuals. This concept has proven to enhance lifestyles and positively change behaviors, and the way humans interact with others. Simultaneously, it allows for people with disabilities to feel more independent.

THE PURPOSE

Everyday people with disabilities are choosing functionality over decoration in their homes. The designers of this century are looking at influencing this mind set by keeping objects functional while giving people the option of having beautiful spaces and appropriate decor.

COMMON SPACES – STAIRCASES AND HALLWAYS

• HALLWAYS •

- Handrails can be incorporated in wall design elements so that they do not necessarily stand out but are still easy to see for the visually impaired
- Open floor plans (limited hallways)
- Round and wider hallways for wheelchair accessibility

• STAIRCASES •

- Staircases with an area of rescue assistance
- Single floor units
- Design stairs on the outer edges of floor plans for easier fire rescue
- Public elevator for daily use
- Tread design being on both left and right to save space and allow people to concentrate on stairs



<http://tepblog.uoregon.edu/blog/wp-content/uploads/2010/10/Picture-5.png>
<http://1decor.net/stairs-for-small-spaces/>
<http://www.homestratosphere.com/handrail-ideas/>



**Universal
Design
Bedrooms for
Senior Living**

**Ally Gagliardo
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Gini Clark**

What is Universal Design?

- **Universal Design** is a product or space that accommodates everyone. Universal Design aims to not draw attention to a disability because everyone is using a ramp or everyone is using accessible door handles. The term is most often utilized in the United States.
- **Inclusive Design** is another name for Universal Design. However, inclusive design started with the design of products. The goal is to not exclude anyone due to his or her disability. This term is most often utilized in the United Kingdom.

Bedroom Checklist

- All closets should have height adjustable poles and shelving
- Closet doorway to be at least 36" clear opening width minimum
- Provide 36 "clear space on two sides of the bed
- Bed mattress height should not exceed 22" from finished floor to mattress top for easy entry and exit
- Avoid small throw rugs. Large area rugs should have anti-slip backing
- Select furniture that has rounded corners, and properly scaled for each room to allow easy movement



General Ideas for Senior Living

- Rounded edges of furniture (end tables, dressers, TV stands, etc.)
- Touch-activated dressers and drawers
 - Whether they're hit by a hand/leg or motion censored
- Furniture that looks like solid wood, however, has softened edges to prevent injuries
- End tables with built-in "life alert" buttons for emergencies
- Adjustable beds with wheels
 - Mattresses
 - Headboards
 - Zipped and linked beds
- Having a combination master closet/laundry room
 - Shelves and racks that fold down
 - Island in the middle with shelving and drawers
- Plenty of windows and natural lighting
 - Bringing the outdoors in since they may not be able to go outside often
- Automatic lighting and motion sensors in closets
- Skylights that have automatic shades
- We propose a code that when a doorbell or fire alarm goes off lights flicker to alert the senior
 - We propose that this is required in all senior living facilities and condominiums



Universal Design

Design that accommodates all users,
“Common Sense Design”

Jessica Wood

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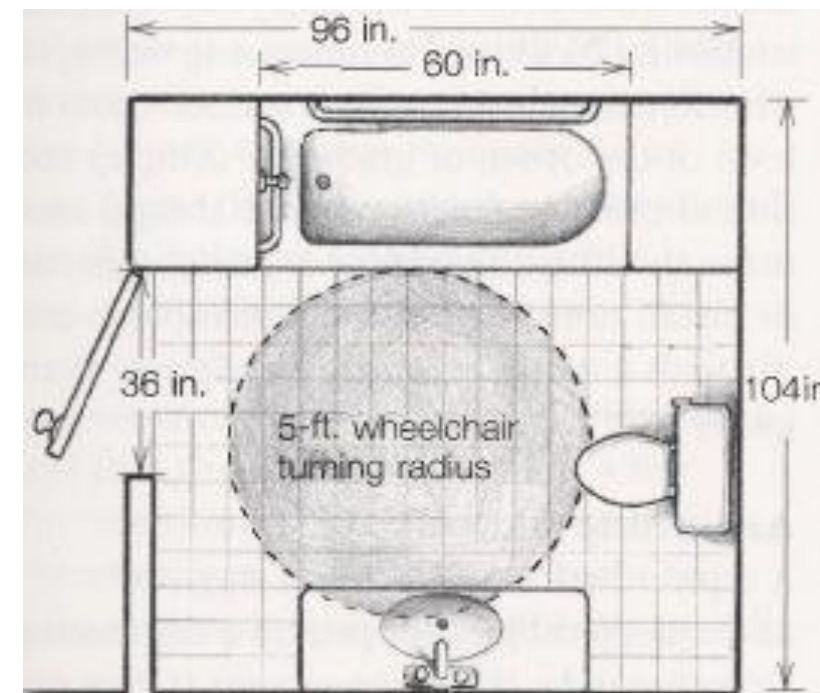
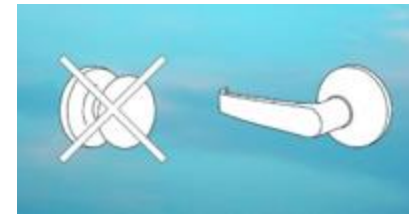
Main Goals:

- Make sure design is comfortable
- Make sure design is safe
- Make sure design can adapt to changing lifestyles



Lighting, Clearance, and Storage

- Universal designed bathrooms is meant for everyone, especially those "aging in place", or the desire to keep a functional bathroom while keeping the area stylish and modern
- Bathrooms should be designed to increase light levels and to avoid shadows and glare for the aging eyes
- Opting for LED lighting for maximum light output
- If using decorative lights with shades on them, the lights should not be placed too high, where the bulb can be seen, since this can cause eye fatigue from the bulb's glare. If so, place the bottom of the shade just about at eye level
- Lavatory cabinetry should be removable and exposed elements should be finished
- Clever storage ideas can even be borrowed from the kitchen: If space allows, an appliance garage can store an array of makeup and toiletry items behind a closed door



Sink:

- Use lever style faucets:
 - Easier to use than twist faucets
 - Good for kids and people with limited dexterity
 - Available in various styles and finishes



Vanity:

- Wall mounted vanity
 - Provides space for wheelchair user
 - Keeps floor space open for easy cleaning
 - Provides styles that cover drain traps and water supply tubes
- Cabinets:
 - Mount 9" off of floor to allow room for a wheelchair footrest to pass underneath
 - Use D-shaped drawer pulls
 - Provides easy access for people of all abilities



Toilets:

- Tall toilets

Shower & Tub Universal Design Requirements:

- Allow for one accessible bathing fixture either a 60"x30" roll in shower or a tub with clearance and one end.

Showers:

- Grab bars at all sides (vertical recommended, not required)
- Handheld shower head, recommended
- Single hand faucet
- Where a seat is provided in a standard roll-in shower compartment, it shall be a folding type, shall be installed on the side wall adjacent to the controls, and should extend from the back wall within 3 inches of the shower entry
- Transfer Space

Bathtubs with Permanent Seats:

- Back Wall. Two grab bars should be installed on the back wall, one located 8 inches minimum and the other 10 inches above the rim of the bathtub. Each grab bar shall be

